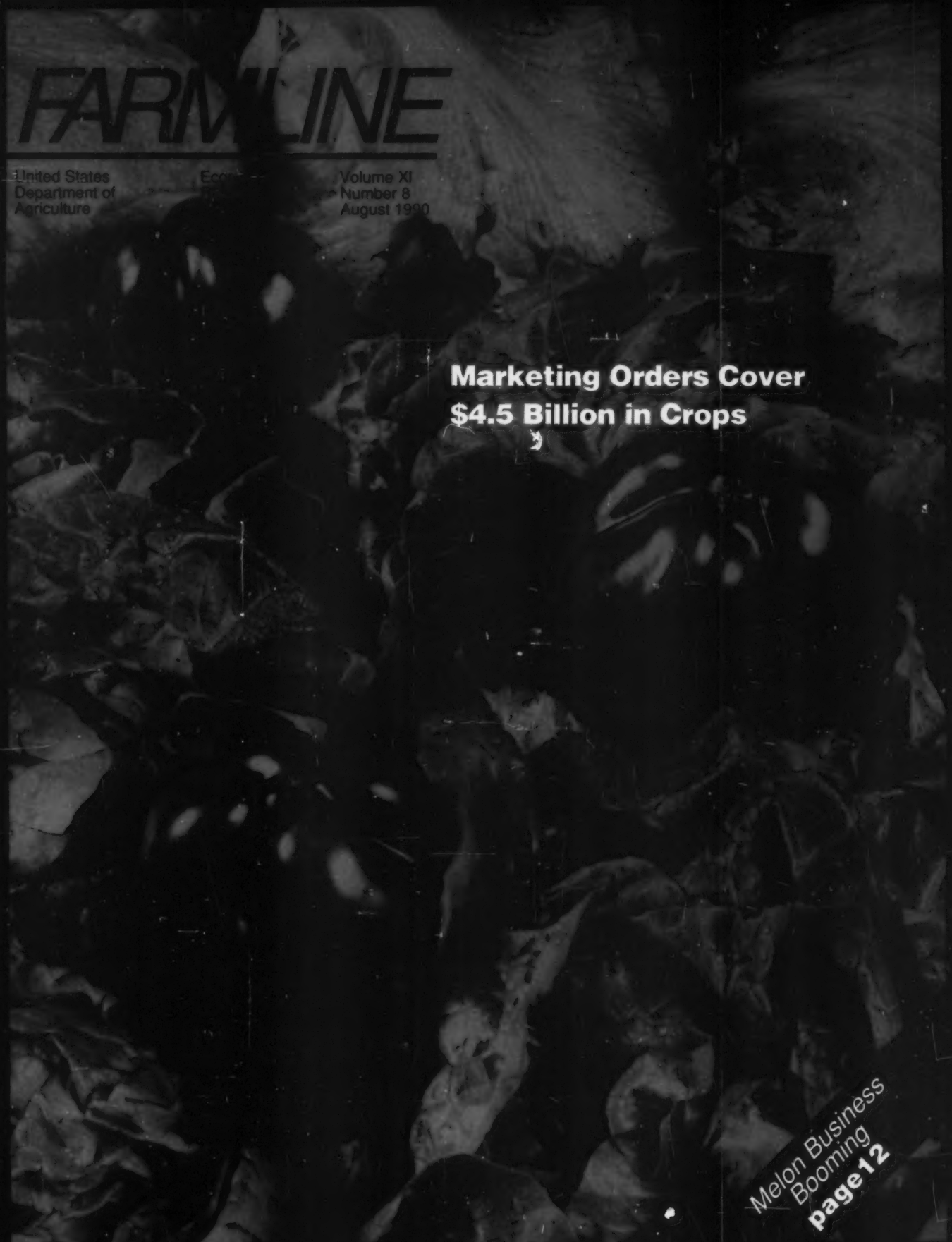
FARMLINE
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Marketing Orders Cover $4.5 Billion in Crops
Melon Business Booming
page 12

TAKE PRIDE IN AMERICA™

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PERSPECTIVES

CONDITIONS of several major crops in the United States in early July were generally better this year than in either 1989 or 1988. The 1990 corn and soybean crops, as of July 8, were in slightly better condition than the 1989 crops but substantially better than the drought-damaged crops of 1988. This year's winter wheat crop was rated much better in early July than the 1989 crop and significantly better than 1988. (The Kansas winter wheat crop was 65 percent harvested as of July 1 this year.) The spring wheat crop, as of July 8, was generally poor in 1988, fair in 1989, and good in 1990. This year's cotton crop, through June and into early July, was rated better than the previous year's crop, but about July 1 dry weather began causing deterioration in conditions in some areas.

ERS economist Allen Johnson has devised an index of state and national crop-condition ratings. His basic information comes from USDA's weekly Crop Progress Report, which lists, by state, the percentage of a crop rated excellent, good, fair, poor, and very poor. On Johnson's index, 5 stands for excellent, 4 good, 3 fair, 2 poor, and 1 very poor. Each state rating is weighted according to acres planted.

The corn crop's average nationwide rating, at the end of the first week in July 1988, for example, was 2.46 (about halfway between fair and poor). The 1989 crop, on about the same date, had an average rating of 3.65 (substantially closer to good than fair). On July 8 this year, the crop was rated even better, at 3.72. State ratings on July 8 this year included 3.84 for Iowa, 3.78 for Illinois, 3.91 for Nebraska, and 3.75 for Minnesota (the top 4 states in corn acreage, respectively.) This table shows some national ratings:

	July 1	July 8		July 1	July 8
1988 Corn	2.92	2.46	1988 Soybeans	2.86	2.76
1989 Corn	3.81	3.65	1989 Soybeans	3.60	3.50
1990 Corn	3.69	3.72	1990 Soybeans	3.52	3.52
1988 Winter Wheat	3.28	*N.A.*	1988 Cotton	3.40	3.60
1989 Winter Wheat	2.71	2.70	1989 Cotton	3.26	3.28
1990 Winter Wheat	3.70	3.71	1990 Cotton	3.56	3.37
1988 Spring Wheat	2.01	2.02			
1989 Spring Wheat	3.73	3.16	*N.A. = Not Available.*		
1990 Spring Wheat	3.93	3.84	5=Excellent, 4=Good, 3=Fair, 2=Poor, 1=Very Poor.		

Kansas, with nearly one-fourth of the nation's winter wheat acreage, had the highest statewide crop condition rating (4.11) as of July 8. The next 2 biggest producers, Oklahoma and Texas, had 3.95 and 3.60 ratings, respectively. The top spring wheat state, North Dakota, had a 3.97 rating on July 8. Ratings for the other 3 major producers were Minnesota 4.08, South Dakota 4.02, and Montana 3.07. July 8 ratings for the top 4 soybean states (in order of acreage planted) were Illinois 3.57, Iowa 3.75, Minnesota 3.70, and Indiana 3.66.

Harvested acres of all wheat this year have been estimated at 70.0 million, up 13 percent from last year. Corn acreage is at 67.1 million, 4 percent higher than in 1989, and soybean acreage is 56.9 million, 4 percent lower.

— Jack Harrison

FARMLINE

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FEATURES

Marketing Orders Cover $4.5 Billion in Crops *by Al Veerhoff* 2

The federal marketing order system now covers 45 crops in various parts of the country, controlling how, and sometimes when, crops go to market. The system is thriving more than 50 years after enactment by Congress of the Agricultural Marketing Agreement Act of 1937, which is still the controlling legislation.

School Systems Vital to Rural Development *by Priscilla Glynn* 8

The poor economic performance of many rural areas in the 1980's meant lost opportunities for numerous young people who would prefer not to move away and seek employment in urban areas. Rural schools are among the institutions that have vital roles in strengthening the economies of rural areas, in order to keep from losing the talented members of the younger generation.

Watermelon Industry Rebounds from Slump *by Priscilla Glynn* 12

From 1960 until the early 1980's, the U.S. watermelon industry showed a gradual and persistent decline. But production and consumption have reversed course in recent years and growers are using new varieties and new marketing methods to try to keep the trends positive.

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Marketing Orders Cover $4.5 Billion in Crops

A market-control system that farmers in the early 20th century used with limited success is thriving as the century draws to a close. The controls allow horticultural producers in a geographic area to determine collectively how, and sometimes when, their crops will go on the market.

The controls did not take hold in this country until they were sanctioned as federal marketing orders under a law passed during the Great Depression, explains economist Nicholas J. Powers of USDA's Economic Research Service. In the early 20th century, agricultural cooperatives in the West had tried, at times vigorously, to withhold produce and limit market sales when supplies were bountiful. With fewer goods on the market, the cooperatives reasoned, they could raise farm prices to cover their costs. Their attempts were frustrated by free riders—growers who did not participate in the collective effort and limit shipments of the commodity. Some cooperatives obtained statewide marketing controls, Powers says, but it turned out that the orders also benefited competing growers in other states.

The federal law that sanctions marketing orders identifies the crops that may be covered and the way the orders are applied. Currently covered are 45 crops, which are sent to market under rules drafted and overseen by the growers, first-handlers, and often a consumer representative. The rules are approved and monitored by USDA. (The peanut crop is covered by a voluntary marketing agreement, which in contrast to the federal marketing orders, is enforceable only on signatory handlers rather than on all handlers in a designated growing area.)

The annual farm value of the crops covered by the orders is estimated at about $4.5 billion in recent years, or roughly half of the total sales in the commodity markets that the crops enter. (Some of the controls are on highly seasonal crops sold for only a few months.) Of the 45 orders, 8 effectively control more than 90 percent of the domestic market share of a specific commodity, while 31 orders cover crops with domestic market shares of 75 percent or less (see box on next page).

Program costs are paid through assessments on first handlers.

Congress spent at least 4 years designing a marketing-order system that would pass Constitutional muster, Powers says. The U.S. Supreme Court threw out the agricultural supply controls and processing taxes enacted in 1933 and 1935. The marketing section of the legislation, which had not been questioned, was reenacted in 1937 as the Agricultural Marketing Agreement Act (AMAA). It continues to be the legal basis of all marketing orders and agreements.

Even though the AMAA and its amendments have cleared the way for growers to set binding controls within their geographic area, marketing orders are seldom adopted with unanimous grower support. Powers reports that every production area has some growers and handlers who believe the orders make them worse off.

There have been major changes in the number, composition, and industry structure of the crops with marketing orders and agreements since passage of the 1937 law, Powers says, yet the number of covered crops has been relatively constant since the 1970's. In the past decade, new orders were issued for five crops (see table, Page 5) and orders were terminated for five others: Florida Indian River grapefruit, Florida interior grapefruit, California-Arizona desert grapefruit, tart cherries, and hops.

The grapefruit orders were found to be largely inactive and redundant to other, more active orders, Powers explains, while the tart cherry growers decided their order would not alleviate low prices caused by an oversupply. The hops order was canceled following a close grower vote on continuation. Before the vote, the Secretary of Agriculture ruled that a marketing allotment regulation in the order was contrary to the purpose of the AMAA.

From Everything to a Fraction

Marketing orders vary as to market penetration. The orders for cranberries, dried California prunes, California nectarines, and California kiwifruit cover all areas in which the commodities are produced domestically and thus can have a strong influence over the marketplace. With two covered commodities, the output by value of the production areas represents 1 percent or less of all like commodities in the marketplace. For example, average annual sales of tomatoes grown in the Rio Grande Valley, a covered crop, are $6.4 million dollars, while sales of all fresh-market tomatoes are about $862 million.

Regulations authorized under a marketing order apply to crops marketed interstate and abroad. The rules may be applied intrastate if USDA determines that state marketing practices are hindering interstate operations.

Elaborate Rules Cover Establishment of Marketing Orders

Establishment of marketing orders and marketing agreements is a slow administrative process designed to give all growers of the commodity proposed for coverage a chance to be heard.

The first threshold for the order is whether the crop is on the list given in the Agricultural Marketing Agreement Act of 1937 (AMAA), as amended. Second, the crop must be in a well-defined area, the smallest that can effectively carry out the collective action sanctioned by the AMAA.

Usually, marketing specialists from USDA's Agricultural Marketing Service provide the growers with guidance on applying for an order or agreement.

The draft proposal is sent to the Secretary of Agriculture who must decide whether the plan is feasible. An affirmative finding is followed by a public hearing on the merits of the proposal. On the basis of the hearing testimony, the Secretary decides whether to submit the proposal to a grower referendum.

To be secured as a marketing order, the plan must be endorsed by at least two-thirds of the growers voting or by growers producing at least two-thirds of the output of the crop in the growing area. (A cooperative may cast a block vote indicating the opinion of the majority of its grower members, but USDA does not encourage the practice because it conceals the size of the minority vote.)

Approval requirements are slightly different for some commodities. Orders for western citrus crops must be accepted by three-fourths of voting growers. Orders for grapefruit, cherries, apples, or cranberries for canning and freezing must be favored by processors representing at least 50 percent of the volume frozen or canned.

Marketing agreements are binding only on handlers who sign the agreements, while marketing orders are compulsory on all handlers shipping from the area covered by the order. Only one crop, peanuts, has a marketing agreement without a marketing order.

A marketing agreement often is issued at the same time as a marketing order, symbolizing handler support for the marketing program. The Secretary issues an agreement along with a marketing order if the handlers who market at least one-half of the total volume of the crop sign the agreement. Western citrus marketing agreements must be backed by handlers of at least 80 percent of the total volume of the crop before the agreements can be issued by the Secretary.

The marketing order is administered by a board or committee of growers and handlers. Often a consumer or public interest representative also serves on the panel. All participants are nominated by the growers and handlers, but they must be appointed by the Secretary. Length of the appointments may vary. While there may be no tenure limits on marketing-order panel members, USDA recommends a 6-year limit on continuous service on a board or committee, to encourage grower involvement.

The regulations the marketing order will cover are decided in the initial referendum, but the board or committee oversees the operation of the rules, subject to the approval of the Secretary. Its other functions are to serve as a forum for settlement of disputes between handlers and growers; to collect and disseminate information on production, shipment flows, and inventories; and to set marketing policy for each new crop. The policy recommendations, which can be issued before or during the marketing season, become legally binding marketing regulations when they are approved by the Secretary.

USDA tries to evaluate the support for a marketing order every 6 years, depending on how the AMAA applies to the specific order. The customary pattern is to hold a referendum among the growers. The threshold for automatic continuation is the same as in the founding referendum—two-thirds of the voting growers, or growers representing two-thirds of production (three-fourths for the western citrus crops). If at least one-half of the growers (by number or volume) favor termination, the order must be terminated. If the vote for continuation is between one-half and two-thirds—as it was a few years ago among the hops growers—the Secretary decides whether to suspend or continue the order.

Marketing orders authorize three major types of collective action by growers, but the regulatory powers contained in the orders vary as much as the market penetration of the orders. Virtually all of the orders, for instance, allow growers to set minimum commodity grade and size requirements, factors that are considered critical for the fresh market. In many orders, handlers pay for advertising and promotion programs and for research on production and marketing.

Twenty-one marketing orders authorize growers to apply some form of volume controls to limit quantities to selected markets during certain periods of the year and thereby elevate producer incomes, Powers says. "Consumers who buy produce in markets with limited quantities pay a higher price than otherwise."

Of these orders with volume controls, 17 were initiated during the first 25 years after the passage of the AMAA. (Texas orange and grapefruit producers are specifically barred from using volume controls.)

For federal policymakers, one of the principal attractions of the marketing-order system is the way it is financed. Direct federal outlays are limited to administrative expenses of USDA's Agricultural Marketing Service.

"Program costs of the marketing orders are financed by per-unit assessments on first handlers, who partly recover such payments through deductions from the

growers' crop receipts and through higher prices to consumers," Powers says. Most covered crops are sold to first handlers—intermediaries who arrange to harvest, clean, inspect, grade, package, and sell the produce. The handlers then negotiate sales to wholesalers, institutional buyers, and large retailers.

For some commodities, notably western-grown citrus, cranberries, prunes, raisins, and tree nuts, the handlers are largely grower-owned cooperatives. Also, growers of tree nuts, dried fruits, and spearmint oil deliver processed commodities to handlers who then grade, pack, and market the goods.

While there are fewer handlers who process and market produce than there are growers, competition exists even in these markets. For example, while many California raisin producers market their commodities through the Sun Maid cooperative, they also sell to a Sun Maid competitor, Del Monte Fresh Fruit Company, a subsidiary of RJR Nabisco.

How the Regulations Work:

Promotion, research and packaging—Thirty-six marketing orders authorize collective funding of programs that provide growers economies of scale in consumer advertising and in promotion campaigns among wholesalers and retailers. The advertising budget is prepared by the administrative committee (or advisory board) for the market order and submitted to USDA for review and approval. Financing usually is in the form of pro rata assessments on the handlers.

Thirty-four marketing orders finance research intended to reduce sales losses caused by shrinkage and spoilage, inferior quality, and poor consumer acceptance. Examples of research include development of more efficient irrigation systems, developing drought- and insect-resistant crops, and finding new packaging materials.

Twenty-eight marketing orders specify the size, capacity, weight, dimensions, and pack of the containers that handlers use for sending commodities to market, thus assuring some uniformity in shipping containers.

Grade and size requirements—Size requirements, the most frequently author-

Marketing Orders Range in Age From 2 Years to 50 and Grower Numbers Range From Less Than a Score to the Thousands

Year established	Produce item	No. Growers (in 1988)	No. Handlers (in 1988)	Regulations Covering: (effective as of 9/1/1989)									
				1	2	3	4	5	6	7	8	9	10
1939	Florida citrus	17,000	99			3	4	5	6				
1939	California peaches, pears, plums	2,030	755	1	2	3	4	5					
1939	Pacific Coast winter pears	1,817	91	1	2		4	5					
1940	California Tokay grapes	390	9	1	2	3	4	5	6	7			
1941	Idaho-East Oregon potatoes	3,100	70			3	4	5					
1941	California-Arizona lemons	2,500	85	1	2			5		7			
1941	Colorado potatoes	290	120	1	2	3	4	5					
1942	Georgia peaches	265	30				4	5					
1942	Southern Oregon-Northern California potatoes	470	45	1	2		4	5					
1948	Virginia-North Carolina potatoes	150	60				4	5					
1949	California walnuts	8,000	60	1	2		4	5			8	9	
1949	California raisins	5,000	23	1	2		4	5			8	9	
1949	Oregon-Washington hazelnuts	1,300	26				4	5			8		
1949	California prunes	1,200	16	1	2	3	4	5				9	
1949	Washington potatoes	360	50				4	5					
1950	California almonds	7,500	115	1	2		4				8	9	
1953	California-Arizona navel oranges	4,065	125	1	2			5		7			
1954	California-Arizona Valencia oranges	3,500	115	1	2			5		7			
1954	Florida avocados	330	36	1	2	3	4	5	6				
1954	Maine potatoes	order inactive				3	4	5					
1955	Florida limes	230	18	1	2	3	4	5	6	7			
1955	Florida tomatoes	180	100	1	2	3	4	5					
1955	California dates	150	18	1	2	3	4	5			8		
1956	Colorado peaches	260	53	1	2		4	5					
1957	Washington sweet cherries	1,200	65	1	2	3	4	5					
1957	Idaho-East Oregon onions	360	30	1	2	3	4	5	6				
1957	Washington apricots	190	58	1	2	3	4	5					
1958	California nectarines	740	245	1	2	3	4	5					
1959	Rio Grande Valley (Texas) tomatoes	30	2	1	2	3	4	5					
1960	Texas oranges and grapefruit	2,500	13	1	2	3	4	5					
1960	Cranberries (10 states)	950	31								8		10
1960	Washington peaches	390	85	1	2	3	4	5					
1960	Washington–Oregon fresh prunes	375	41	1	2	3	4	5					
1960	South Texas lettuce	33	10	1	2	3	4	5	6	7			
1961	South Texas onions	160	40	1	2	3	4	5	6				
1965	Peanuts (marketing agreement, 16 states)	47,000	51				4	5					
1965	Washington-Oregon Bartlett pears	1,900	72	1	2	3	4	5					
1965	California olives	1,375	8	1	2		4	5					
1965	Florida celery	13	7	1	2	3	4	5	6	7			10
1971	Hawaii papayas	200	122	1	2	3	4	5					
1979	Texas melons	72	35	1	2	3	4	5					
1980	Spearmint oil (six states)	253	9	1	2							9	10
1980	California desert grapes	88	25	1	2	3	4	5	6				
1984	California kiwifruit	1,200	145			3	4	5					
1988	Vidalia onions	260	160	1	2								
1988	Texas-New Mexico potatoes	110	30	1	2	3	4	5					

Key to marketing regulations:

Promotion, research and packaging
1. Generic advertising and promotion.
2. Production and marketing research.
3. Package and container requirements.

Grade and size
4. Grade requirements.
5. Size requirements.

Volume controls
6. Shipping holidays.
7. Prorates.
8. Market allocation.
9. Reserve pool.
10. Marketing allotment.

Source: Economic Research Service, Agricultural Marketing Service.

ized regulations, were adopted in 41 marketing orders and the peanut marketing agreement. Grade requirements are the second most frequently authorized regulation, found in 39 orders and the peanut agreement. To keep off the domestic market produce that is undersize, oversize, or of substandard quality, 18 marketing orders apply grade and size requirements to imported commodities as well.

Volume controls—The mildest form of volume control is the shipping holiday, permitted by nine marketing orders. It allows the administrative committee to order handlers to withhold commodities from the market for up to a week as a market-clearing device when retail inventories are high.

Prorates, permitted by seven marketing orders, set upper limits on weekly shipments to selected markets. In practice, however, they do not prevent handlers from sending goods to market as shipping holidays do. Powers says research has shown that prorates can elevate grower revenue by diverting sales from the higher priced fresh market to lower priced markets such as processing.

Market allocations differ from prorates in that they regulate annual shipment flows, while prorates are applied within the season. Production in excess of market allocation is sold in nonregulated markets or stored for future sale. Six orders allow market allocations.

Reserve pools (authorized in five orders) require handlers to set aside a designated proportion of the current season's production, for shipment to market when prices have improved or for diversion to processors. One advantage seen in the use of the pools is that the assured reserve can stimulate processors to invest in new equipment and new product lines.

Marketing allotments allow handlers to market only the produce for which a grower possesses a marketing quota. Allotments are set by the administrative committee based on the growers' historical sales. A grower can put production in excess of the allotment in the reserve pool, but the effect of this practice is to discourage entry by new growers and expansion by existing growers. A marketing allotment that restricts free-market sales would lift farm prices but also increase consumer expenditures.

Three orders authorize allotments. The regulations are not applied in one (cranberries), and for the two others the market is too large for the orders to have an effective impact on production and price (Florida celery and spearmint oil). □

[Based on information provided by economist Nicholas J. Powers of the Commodity Economics Division, Economic Research Service.]

Marketing Order Sales Represent 91-100 Percent of the U.S. Market for 8 Crops and at Least 34 Percent for 11 Others [1]

	Percent of market	Marketing order sales
		Million dollars
Cranberries (10 states)	100	163.2
California prunes	100	121.1
California nectarines	100	72.7
California kiwifruit	100	21.8
California almonds	99	569.9
California walnuts	99	209.5
California raisins	98	274.3
California-Arizona lemons	91	186.4
California-Arizona Valencia oranges	83	179.6
Hawaiian papayas	83	11.6
Florida limes	82	21.6
California-Arizona navel oranges	81	245.9
Spearmint oil	81	21.4
California dates	78	17.1
Oregon-Washington hazelnuts	69	15.3
Pacific Coast winter pears	55	86.3
Florida tomatoes	46	502.9
Washington sweet cherries	36	52.8
Florida citrus	34	279.5

[1] The remaining 26 marketing orders each cover less than 33 percent of the U.S. market.

Note: Values were calculated by averaging marketing season data from 1985/86 to 1987/88 for citrus fruits and from 1986 to1988 for deciduous fruits, dried fruits, nuts and spearmint oil. Size of domestic market including imports was developed from data on average import values for fiscal years 1986 to 1988.

Source: Nicholas J. Powers, Economic Research Service

REPORTS IN THE NEWS

Bank Regulation: Its Rural Effects

Rapid geographic deregulation of the financial services industry probably will continue, in response to technological advances and legislative actions at the State and possibly the Federal levels, the authors of this report say.

Some analysts fear that rural areas will lose their locally owned community banks and be left to the whims of large regional and national banking firms. Others argue that geographic deregulation will benefit rural borrowers by increasing the range of financial services provided in rural communities.

This report examines the structure of rural bank markets, determines how this structure has changed in recent years, and discusses probable scenarios for the future of rural banking. The authors focus on the banking systems of States that have recently expanded bank branching privileges, permitted interstate banking, or both.

The ultimate effects of bank deregulation on rural financial markets are unknown at this time, the report's authors say.

The number of banks is declining but most banks that disappear become branches of other banks, so that financial services within most communities are maintained.

A sizable number of rural counties have access to services and lending experience associated with large banks. Many such counties still have locally owned banks.

These communities may receive the benefits of both wider services available from large banks and greater local knowledge from locally owned community banks.

Deregulation and the Structure of Rural Financial Markets by Daniel L. Milkove and Patrick J. Sullivan. Published February 1990; 50 pages; $8 ($10 to non-U.S. addresses).

Rice Production: Costs and Returns

The gross value of U.S. rice production per planted acre in 1988 was 60 percent higher with the direct effects of Government programs than it would have been without.

Net returns after economic costs went from minus $104.81 to a positive $48.55 per planted acre, an increase of $153.36, this report states.

Gross returns, production costs, and net returns were all higher when direct effects of Government programs were included.

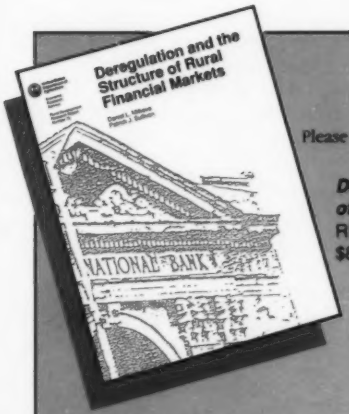
The greatest effect on costs was on the cost of land, which alone accounted for almost 90 percent of the increase in economic costs. Land costs more than doubled from $57.84 per planted acre of rice to $121.15, due primarily to the impact of deficiency payments on share rental expenses.

This analysis represents the first time USDA has prepared such cost and return estimates for any commodity, because the necessary data were not available in the past. Rice is the only commodity for which such estimates are currently available.

The primary data for estimating costs and returns is collected by USDA in special versions of the annual Farm Costs and Returns Survey.

With costs and returns data, the profitability of competing and alternative crops can be compared, the report notes. The direct effects of Government programs are especially important for rice because program participation rates regularly exceed 90 percent.

Effects of Government Programs on Rice Production Costs and Returns, 1988 by Michael Salassi, Mary Ahearn, Mir Ali, and Robert Dismukes. Published March 1990; 12 pages; $4 ($5 to non-U.S. addresses).



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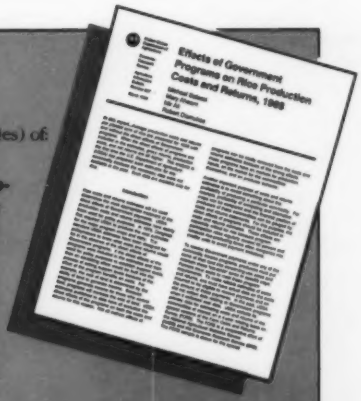

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School Systems Vital To Rural Development

The poor economic performance of rural areas during the 1980's has created major challenges for young people seeking education and employment in those areas. The rural economy performed sluggishly throughout the decade, reflecting the effects of the nation's most severe recession (1979-82) since the Great Depression of the 1930's.

"Although that recession bottomed out in 1982, rural areas have not participated fully in the recovery," explains social scientist J. Norman Reid of USDA's Economic Research Service.

The migration of workers from rural to urban areas has been heavy, particularly among the better educated. "Rural communities cannot hope to achieve a steadily improving standard of living without creating jobs that will keep their better educated young people at home," Reid says.

Reid goes on to explain that rural schools can help strengthen the economy of their communities by helping residents understand and adapt to the changing world and participating directly in community development.

But expanding schools' responsibilities without diminishing the services they currently provide will increase educational costs. "Spending more for schools may be viewed by many citizens with disfavor, since better educated students often move away to take jobs in urban areas," states Reid. "Until the benefits of such a transformation can be demonstrated to these citizens, other sources of funding may be needed to pay these costs."

Agriculture provides only about 10 percent of rural employment.

The Recession's Impact

The recession cut the average real earnings of nonmetropolitan workers more sharply than those of metropolitan workers, and throughout the recovery, nonmetro earnings have increased more slowly.

The metro-nonmetro income gap widened during this period, when nonmetro median family income fell to less than three-fourths of metro median family income. The nonmetro poverty rate grew by nearly one-third between 1979 and 1983, and exceeded the metro rate by 35 percent in 1987. The nonmetro unemployment rate reached 11.1 percent in 1982 and even now, more than half a decade into the recovery, it remains 0.3 percentage point above the 1979 level.

For decades, farming counties have lost population as workers left farming to find employment elsewhere. Even during the 1970's, when nonmetro counties benefited from a massive population influx, more than 300 farming counties—over 40 percent—lost population.

This number increased during the 1980's—nearly 75 percent of rural counties lost residents between 1983 and 1988, and the net migration of residents from nonmetro to metro areas swelled to an estimated 400,000 in 1986-87.

"Counties dependent on mining and energy production weathered the recession better than most rural communities," Reid notes. Between 1979 and 1982, when nonmetro counties as a group lost jobs at an annual rate of 0.2 percent, jobs in mining counties actually grew by 1.3 percent. Sharply higher prices for energy in the 1970's stimulated major explorations for coal and oil, spurring economic growth in many rural communities.

However, the drop in prices of coal, oil, and other minerals in the mid-1980's precipitated massive job losses in these counties. The expected drop in employment upon completion of initial construction of mines and power plants was exacerbated by cuts in the rate of production and exploration.

Changing Rural Industry

The number of jobs provided by traditional rural industries (farming, oil and gas extraction, mining, and timber production) is declining, and few people living in rural areas now work on farms or in jobs that depend directly on farming or other natural resources.

Farming and services linked closely to it now provide about 10 percent of rural employment—down 5 percentage points from 1969. The class of farmers operating small holdings on a full-time basis has nearly disappeared, leaving a base of small, part-time farms and a small number of large farming operations that produce the

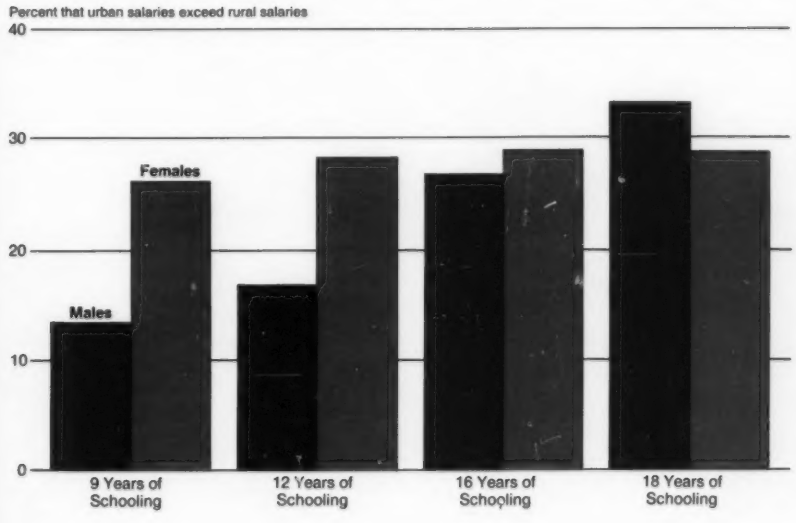
bulk of the nation's food supply. "As a result, we may need to revise our view of farming to regard it as a lifestyle, rather than an important source of rural job growth," states Reid.

Manufacturing and service industries have largely replaced more traditional sources of rural jobs. For instance, one out of every six nonmetropolitan jobs is in the manufacturing sector, and some 577 nonmetro counties now derive 30 percent or more of their income from manufacturing.

The populations and economies of rural manufacturing counties benefited greatly from a large-scale movement of factories from the cities to less costly rural locations during the late 1960's and early 1970's. This industrial decentralization—made possible by improvements in transportation and communications—enabled many rural communities to replace some of the jobs lost in agriculture.

But this decentralization slowed dramatically in the 1980's. Stiff competition in manufacturing (particularly from Third World countries) has led to increased automation and consequently reduced labor requirements, heightening productivity in some cases, and closing plants in others.

Gap Between Urban and Rural Salaries for Full-Time Workers Aged 25-34 in 1986-87



Service industries make up 65 percent of the nonmetro employment base and are the leading source of its employment growth. However, business services, the fastest growing and best paying part of the sector, remain concentrated in major urban centers, and rural areas have shown little ability to compete in this industry.

Rural areas have specialized in industries whose jobs offer lower pay and less career potential than those in the urban economy. Moreover, industries tend to concentrate their more routine production operations—requiring only marginally skilled workers—in rural areas, while locating higher paying managerial and technical operations in cities.

Important parts of the rural economy—particularly agriculture and manufacturing—now seem to be recovering. The nonmetro unemployment rate fell from 9 percent in 1986 to 6.4 percent in 1989. Nominal farm income has reached all-time-high levels in recent years.

But continued productivity increases in agriculture, manufacturing, and mining are outstripping demand in world markets. So although they remain important, these industries are unlikely to stimulate substantial future economic growth in many areas.

Because rural manufacturing consists largely of routine processing, it will remain vulnerable to intense competition from abroad. Moreover, further advances in automation will likely continue to decrease the labor needed to maintain current industrial output.

Rural areas have been hampered in their attempts to shift resources into other activities by their distance from markets, heavy reliance on manufacturing plants, and lack of highly skilled workers. Given their present industrial makeup, these areas are projected to increase jobs by only 16.7 percent by the year 2000, compared with 22.9 percent for metro areas.

Rural Areas As Places To Live

The economic future of many rural areas depends increasingly on their desirability as places to live. In recent years, the most rapid population growth has occurred in rural counties within commuting distance of metropolitan areas, and those considered attractive places to live.

From 1979 through 1986, employment levels grew more rapidly in counties adjacent to metropolitan areas than in remote counties. Although these adjacent counties suffered greater employment losses in the recession, they also recovered much more quickly.

Counties neighboring urban areas are better able to adjust to changing economic conditions, partly because workers displaced from rural jobs are within commuting distance of cities, and can seek employment there.

Rural counties considered to be prime retirement areas are scattered across the country, from New England, Appalachia, Florida, the Great Lakes, and the Missouri Ozarks to the West and Southwest. Retirement counties have enjoyed a better economic performance during the last two decades than any other group of rural counties.

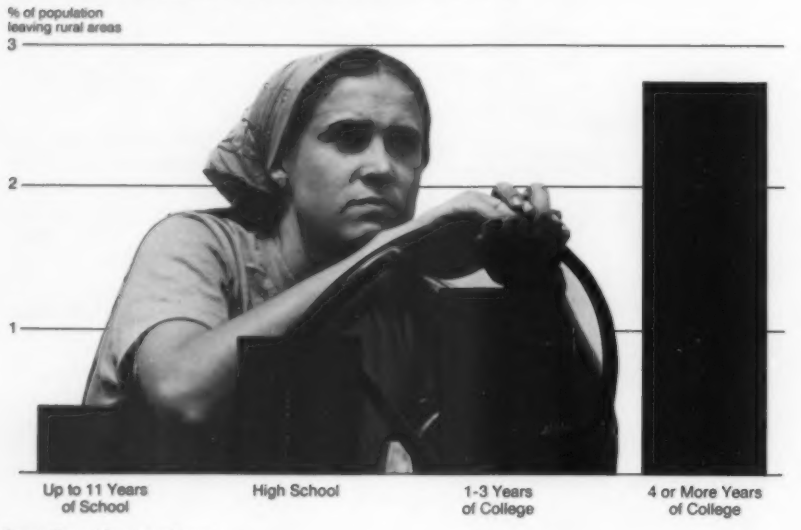
During the recession, their annual job growth rate stood at 1 percent, higher than any other group except mining-dependent counties. After 1982, this figure leaped to 3.4 percent, more than three times the average for all rural counties.

The economies of retirement counties tend to be more diversified than those of other nonmetro counties, in part because their proximity to recreational facilities makes them attractive locations for other industries as well. Given the shift of a large part of the population into the upper age bracket, the future of many retirement counties will likely remain bright well into the next century.

Education's Contribution

Recent strategies for rural development have emphasized the need for local communities to take charge of their own futures. Because they rely on outside investors, traditional development strategies proved to be of little help to rural people attempting to diversify their economic alternatives. "Low-wage jobs seldom taught useful skills to workers, who were valued for their low cost rather than their talents, and were readily replaced by machines or foreign

Rural Areas Lose More of the Better Educated, 1987-88



Source: Current Population Survey

workers when either could do the same job at even lower cost," explains Reid.

Improving basic education remains the most fundamental challenge facing rural schools. By enhancing the skills of the labor force, teachers can help strengthen the economy of rural communities.

Thorough analyses of the educational needs of rural industries do not exist. However, available data indicate the rural population is less well educated than the urban group, and often lacks basic skills.

The lack of high-skill jobs in rural areas, coupled with the shortage of highly skilled workers in urban areas, has created an enormous gap between the incomes of new entrants to the labor force in the two areas. Among 25- to 34-year-olds, for example, the urban-rural earnings gap ranges from 15 to 35 percent for males and just under 30 percent for females.

Self-development (wherein rural communities take charge of their own futures, and cease relying on outside investors) requires these communities to identify their comparative economic advantages and local resources—such as raw materials, location, scenic beauty, and the special talents of residents—that are currently undervalued and underused. For example, rural communities can develop markets for special products whose demand is not greatly affected by price, thereby overcoming the disadvantage of being located far from these markets.

A lack of appropriate information for community decisionmaking is a basic problem plaguing rural communities nationwide. "Urban areas have think tanks and blue ribbon civic commissions to study their problems and recommend solutions," states Reid, "but rural communities frequently depend on volunteer, part-time leadership."

The dedication and hard work of these leaders is often not matched by knowledge about the larger events that will shape their communities' futures. Consequently, few rural areas have plans for future development, responding instead to problems or opportunities as they arise.

There are, nevertheless, several ways in which rural schools can help communities solve their problems. Their facilities can be used as meeting places, and their libraries as centers for information on dealing with civic problems.

And schools can take a more direct role in rural development—by helping their communities understand and adapt to the changing world, for instance. Faculty members could be encouraged to apply their talents to community issues by conducting research and teaching special issue-oriented adult education programs. Students can become directly involved as well, by studying community history, economy, governance, and problems, and helping to research community issues through class projects.

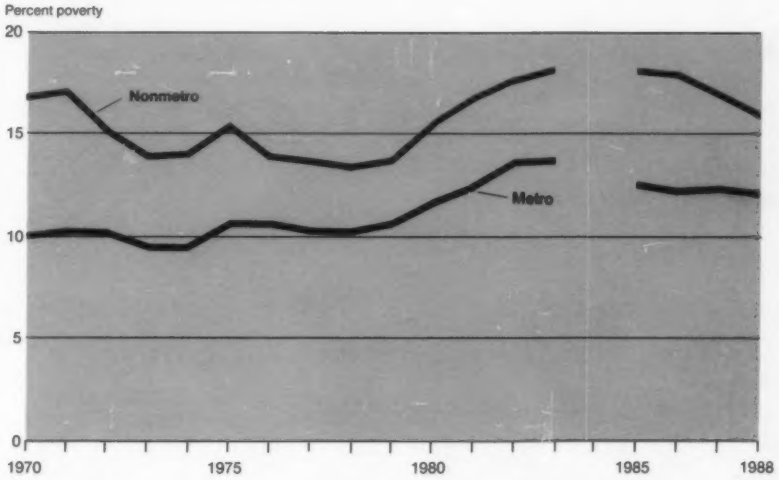
To transform rural schools from strictly educational institutions into community service agencies, their communities must overcome several obstacles. For instance, State and local laws and regulations concerning curricula, teaching loads, and the use of school facilities may have to be broadened.

"The tendency for the more educated workers to leave rural communities for urban jobs siphons off the most capable workers and best potential leadership," says Reid. "Yet these workers cannot afford to stay in communities that fail to offer adequate incomes. Consequently, short-term investments to fund projects may be needed for the initial establishment of rural businesses."

To ensure a brighter future for rural areas, schools, economic development agencies, and citizens must work together to develop innovative employment opportunities. They must also establish effective community organization and leadership to manage their economic growth over the long term. □

[Based on information provided by social scientist J. Norman Reid of the Agriculture and Rural Economy Division, Economic Research Service.]

Poverty Remains More Prevalent in Nonmetro Areas, Despite Recent Improvements



No data are available for 1984.

Watermelon Industry Rebounds from Slump

The U.S. watermelon industry is flourishing again after a period of decline, and consumers now seem more satisfied with the product.

From 1960 until the early 1980's, the industry showed a gradual but persistent decline. Production slipped from 31.1 million hundredweight (cwt) in 1960 to 26.1 million cwt in 1981, the last year USDA calculated official estimates of output. But although volume had decreased, the 1981 crop's value of $159.3 million was several times that of the 1960 crop.

Falling production and rising population cut per capita consumption from 17.2 pounds in 1960 to a record low 10.6 pounds by 1980, according to a report by economists Gary Lucier of USDA's Economic Research Service and Amy Allred, formerly of ERS.

The causes of this decline may be partly explained by the findings of a private research organization that surveyed 2,000 households in 1988. The results suggest that consumers find large watermelons inconvenient, and are concerned about the consistency of their quality.

"Icebox" size melons have helped boost consumption.

Nine States that produce about 70 percent of the U.S. crop have continued to provide watermelon statistics, which the economists used to prepare their report. These data indicate that watermelon producers have reason to feel optimistic about the future: production, yields, and consumption are once more on the rise. Favorable grower prices, as well as farmers' interest in diversifying into several crops, spurred a 10-percent production expansion between 1981 and 1987.

Allred and Lucier estimate that use increased roughly 3 percent a year between 1980 and 1988, and they attribute this to increased consumption by health-conscious consumers, the greater availability of watermelon imports out of season, the enhanced convenience of "icebox" melons (so called because they can easily fit into a refrigerator) and seedless melons, and the marketing of small portions in retail stores.

In the 1987 Census of Agriculture, 26 States reported harvesting 500 or more acres of watermelons. Florida is by far the leading producing State, followed by Texas, California, Georgia, South Carolina, and Arizona.

A Summertime Crop

The marketing season for domestic supplies begins in early April and ends in October, with 97 percent of the crop shipped between May and August. After Labor Day, production wanes rapidly.

Harvested area fell from 332,290 acres in 1960 to 203,600 acres in 1981. And, as with other agricultural commodities, the number of farms in all States reporting watermelon acreage has dropped steeply over time—69 percent between 1959 and 1987.

This dramatic plunge can be partly attributed to changes in USDA's definition of a farm. (This definition has been altered several times since 1934, most recently in

— Photo by Priscilla Glynn

— Photo by Priscilla Glynn

1974.) In the United States today, probably only a few farms actually specialize in watermelon production.

"Some growers likely turned from producing watermelons to alternative crops, while others left agriculture altogether to take up other occupations," note Lucier and Allred. "The remaining producers have expanded their acreage, especially in recent years."

Since 1980, the long-term upward trend in deflated (adjusted for inflation) season average prices has leveled off, possibly due to increases in production that were not matched by efforts to expand demand. Also, extensive irrigation has insulated production and grower prices from the wild fluctuations experienced by other commodities that rely less heavily on irrigation.

"Irrigation water subsidies, primarily in California and Arizona, constitute the most substantial form of Government assistance that watermelon producers receive," the economists explain. Others include credit subsidized by the Farmers Home Administration, Federal crop insurance, extension assistance, and horticultural research. Most major watermelon producing States irrigate at least 25 percent of their harvested acreage.

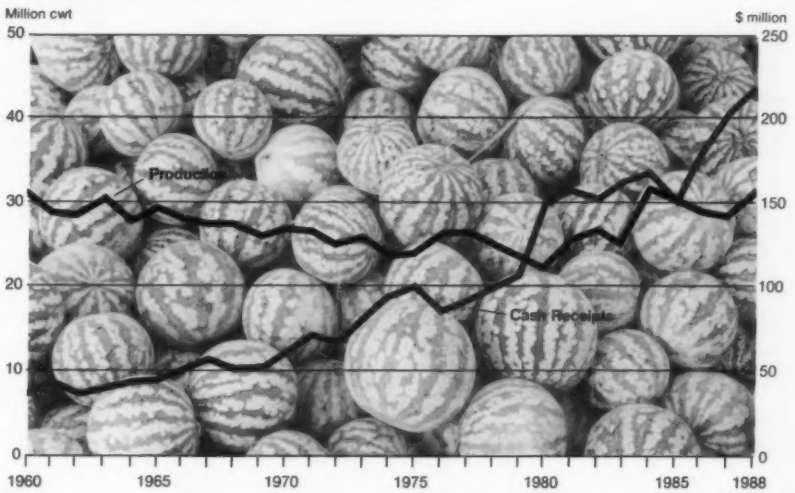
It is tempting to conclude that this minimal price variation indicates stable markets and reduced risks for watermelon producers. However, it is important to bear in mind that producers often must plow watermelons under because harvesting costs outweigh anticipated returns. "The prices growers receive for their melons are largely determined by the basic market forces of supply and demand," the economists state. "There are no Government programs specifically for watermelons which could distort prices."

Like most other agricultural commodities, watermelon yields have been trending upward. Thanks to extensive development in breeding new seed varieties and technological advances in irrigation, harvesting, and handling, yields have shot up 29 percent—from an average 95 cwt per acre in 1960-62 to 129 cwt in 1979-81.

Professional watermelon breeding became common between 1880 and 1900. By the late 19th century, catalogs were offering between 20 and 30 cultivars. The recent successful introduction of several hybrid varieties has changed watermelon production, and a great deal of research is now directed toward developing the icebox and seedless varieties that consumers are beginning to favor.

Over 50 varieties of watermelon are currently available, with Charleston Gray, Crimson Sweet, Cal Sweet, Peacock, Jubilee, Klondike, and Sugar Baby among the most common. Individual varieties are usu-

U.S. Watermelon Production and Grower Cash Receipts Have Been Trending Upwards in Recent Years



Sources: Economic Research Service and National Agricultural Statistics Service, USDA.

Have You Tried Watermelon Pickles, Beer, or Jam?

Watermelon is a trailing annual with stems that can grow up to 15 feet long. Known in botanical circles as *Citrullus lanatus*, it belongs to the Cucurbitacae (gourd) family. Other members of the family include cucumbers, pumpkins, squashes, cantaloupes, gherkins, and chayote.

Watermelons are commonly produced in regions with a frost-free growing season lasting at least 4 months. They need about 80 to 120 days to mature, and optimal growth occurs when temperatures range from 70 to 80 degrees Fahrenheit in the daytime and 65 to 70 degrees at night.

Watermelons have been cultivated for over 4,000 years, and are thought to be indigenous to Africa. They were introduced into Europe early in the Christian era, and were brought to the United States by both African slaves and European colonists. But the watermelon may have American origins as well—early French explorers reportedly found Indians growing it in the Mississippi valley.

The watermelon has had a long and varied career. During the Civil War, for example, Southerners boiled watermelons down into sugar and molasses.

In the United States, almost all watermelon is eaten fresh—as a dessert, snack, or part of a salad. Some people still use the rind to make pickles, relish, jam, and preserves.

People in the southern USSR brew watermelon juice into beer, or boil it down to a molasses-like syrup for its sugar. In the Middle East and Africa, the flesh is used as a staple food, animal feed, and even a source of water in dry areas. In Asia, the seeds are roasted and sold in bags as a snack, while in the Orient melons are often preserved through salting or brining.

ally confined to a specific region—only a few are produced on a national scale.

The Product Is Changing

Although the process of developing and introducing new varieties offers promise for the industry's future, it does present certain problems. Expensive seed, germination problems, and lower yields have impeded growers from making a major shift into seedless melon production.

It also takes more technical knowledge to raise seedless varieties. For example, watermelons must be harvested when they reach full maturity, and determining full maturity is a bit more difficult with the seedless types.

Moreover, early seedless melons lacked the rich color and sweetness of the established varieties. Even today, some consumers do not care for the small edible seeds in the seedless melons, and object to paying higher prices for them. But on the whole, seedless melons are enjoying increasing popularity, and their short supply relative to demand has enabled growers to get higher prices for them.

Producers have also shown some reluctance to switch to smaller melons. "Because they have had difficulty in obtaining satisfactory yields from icebox varieties, many growers prefer to stay with the tried and true larger melons," explain Allred and Lucier. Despite the growing popularity of smaller melons, the foodservice industry's need for larger melons will likely continue.

However, the University of Florida has now developed two new icebox types—the minilee and mickilee, weighing from 5 to 10 pounds. Private companies are also working on icebox varieties.

Because consumer acceptance of seedless and icebox varieties is increasing, producers are expanding the acreage they devote to these types. "This situation mirrors that of the grape sector back in the 1960's and 70's," the economists note, "when seedless varieties such as Thompson and Red Flame made gradual inroads into the traditional grape market, eventually taking it over."

Imports Extend Season

Once available only in the summer months, watermelons can now be obtained virtually year-round, thanks to imports from Central

— Photo by Priscilla Glynn

America and the Caribbean. Mexico, Guatemala, El Salvador, Honduras, Costa Rica, Panama, Venezuela, and the Dominican Republic export watermelons to the United States from November through June.

U.S. consumers have now grown accustomed to eating traditional summer fare throughout the year, and the United States has become the world's leading importer of fresh watermelons. Exporting countries—particularly Mexico—are meeting this demand by shipping large quantities early in the winter. Today it is common to find watermelons in supermarkets and salad bars at any time of year.

Conversely, U.S. exports have declined steadily since peaking at 114.7 million pounds in 1975. Most of the $7 million in 1988 exports were earned during the June-July production peak. Canada purchased the lion's share of these exports.

There are inherent problems in shipping watermelons to distant countries. The melons' weight and bulk command high freight costs per unit, especially if they are shipped by air. A retail premium is necessary to cover transportation costs. Consequently, very little world production finds its way into international trade.

The United States exported $9.1 million worth of watermelon seed in 1988. Except for 1982, the value of seed exports has surpassed that of fresh exports every year since 1979.

Nutritious as Well as Delicious

A recent study indicates that the watermelon offers impressive nutritional benefits far outranking those of the cantaloupe, papaya, orange, grapefruit, banana, or apple. A typical watermelon is 88-92 percent water and 8-12 percent natural sugars by weight. A 1- by 10-inch slice weighing 482 grams supplies:

- 152 calories;
- 77 percent of the recommended daily allowance (RDA) for vitamin C;
- 35 percent of the RDA for vitamin B-6;
- 26 percent of the RDA for vitamin B-1 (thiamin);
- 18 percent of the RDA for vitamin A;
- 4-13 percent of the RDA for many other vitamins and minerals;
- 560 mg of potassium;
- no cholesterol, very little fat, and just 10 mg of sodium.

In 1988, the Food and Drug Administration found pesticide residues on only 8 percent of the watermelons it sampled, and none at all that exceeded established tolerance levels. Clearly, the U.S. watermelon industry can exploit these characteristics to boost sales.

The industry as a whole is making a concerted effort to further enhance the rising popularity of the watermelon. In a referendum held in February 1989, watermelon producers and handlers approved a national promotion and research program submitted by the National Watermelon Association (NWA).

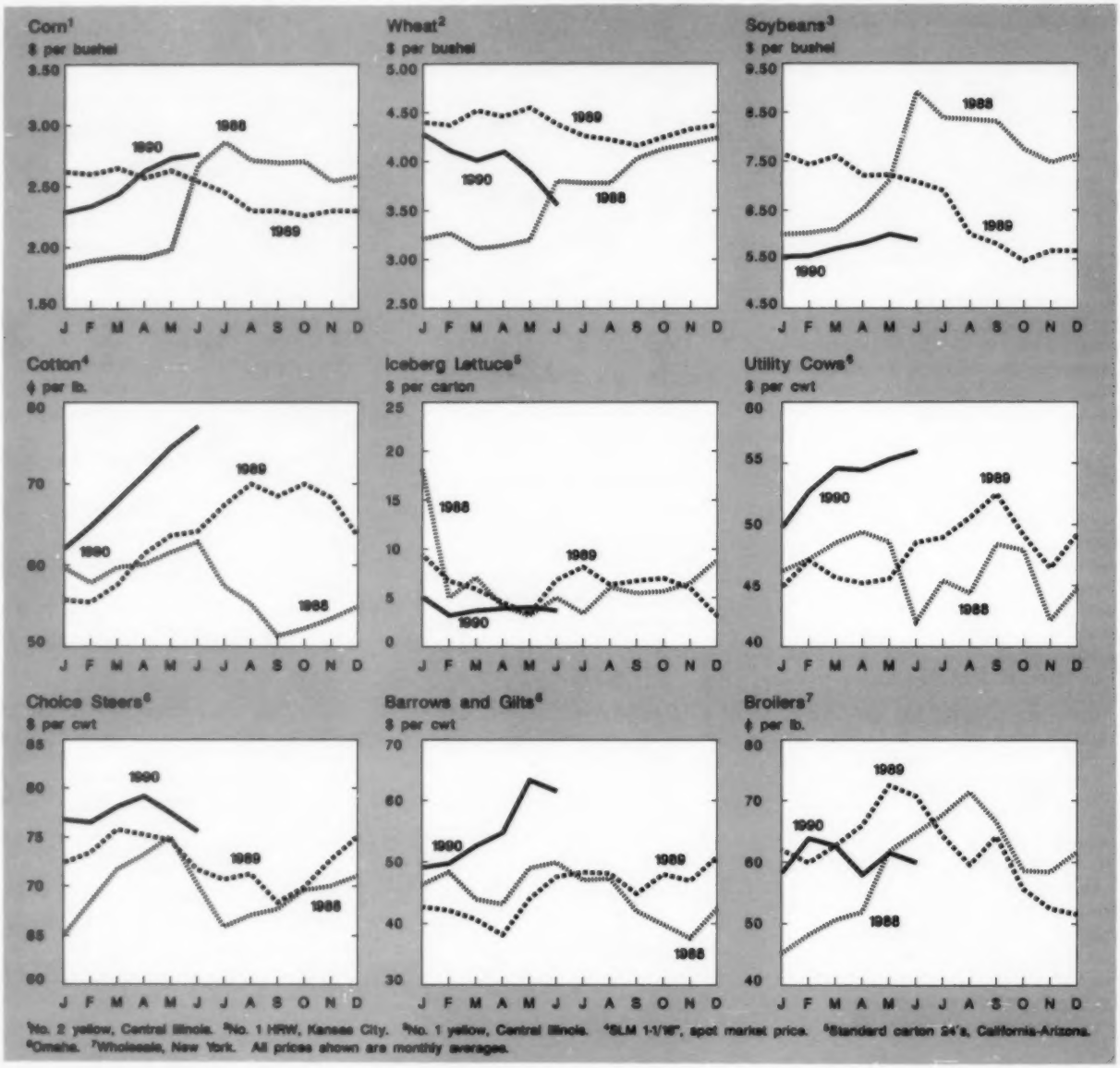
Authorized by title XVI of the Food Security Act of 1985, this program is designed to strengthen and expand the market for U.S. watermelons. It will be funded with an assessment of no more than 2 cents per cwt of watermelon sold for human consumption, to be paid by handlers and by producers who grow 5 or more acres of watermelons. The NWA estimates the assessment will raise about $1 million a year. □

[Based primarily on information provided by economists Gary Lucier of the Commodity Economics Division, Economic Research Service, and Amy Allred, formerly of ERS.]

FARMLINE TRENDS

Monthly Price Monitor

USDA's June 1990 inflation-adjusted index of farm prices decreased 1.3% from May but was 2.7% above its year-earlier level. Corn continued upward with a slight increase to $2.77 per bushel. Wheat was down for the second straight month to $3.57 per bushel and soybeans fell to $5.91. Cotton kept climbing and was at its highest since May 1984 at 77.1¢ per pound. Among meat animals, utility cows were up again at $56.04 per hundredweight. Choice steers dropped for the second month in a row to $75.70. Barrows and gilts dropped to $61.66 per hundredweight. Broilers slipped to 60.1¢ per pound.



[1]No. 2 yellow, Central Illinois. [2]No. 1 HRW, Kansas City. [3]No. 1 yellow, Central Illinois. [4]SLM 1-1/16", spot market price. [5]Standard carton 24's, California-Arizona. [6]Omaha. [7]Wholesale, New York. All prices shown are monthly averages.

U.S. Shares in Global Perspective

The United States will account for a larger share of world wheat, soybeans, and coarse grains production this fiscal year (ending September 30, 1990), according to USDA estimates. In the cotton sector, however, the U.S. share of production is expected to be lower.

In share of exports, the United States is expected to show increases in coarse grains and cotton, remain about the same in soybeans, and lose some ground in wheat. The U.S. shares of coarse grains and soybean exports are expected to be above 60 percent, while the shares of wheat and cotton are both near 30 percent.

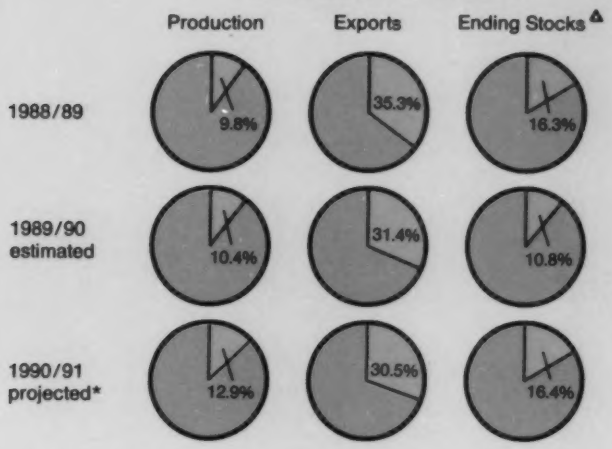
U.S. stocks in most categories are falling more rapidly than world stocks. Wheat stocks this year are estimated to be down 36 percent in this country but only 3 percent worldwide.

Coarse grains stocks are likely to fall by 33 percent here and 21 percent for all countries. U.S. cotton stocks are expected to drop by 55 percent while world stocks are down by 23 percent. Soybean stocks are bucking the trend, estimated to be higher both in the United States and worldwide.

For 1990/91, projections are that the U.S. shares of production of wheat, coarse grains, and cotton will be up from this year, the U.S. shares of exports of wheat, coarse grains, and cotton will be down, and the U.S. shares of stocks will be up for wheat and cotton but down for feed grains. (Projections on 1990/91 soybeans have not been made yet.)

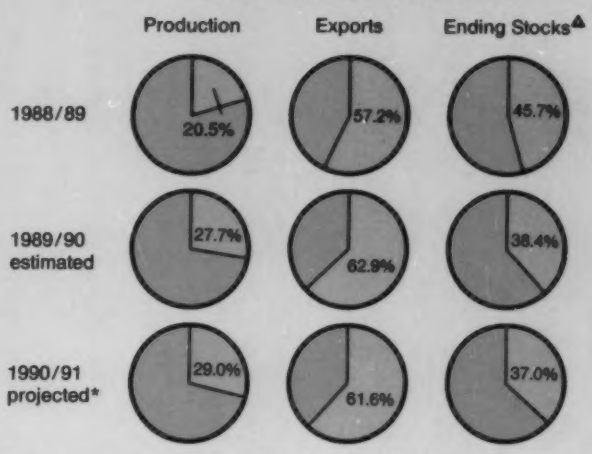
Wheat

U.S. Share of World Wheat:



Coarse Grains

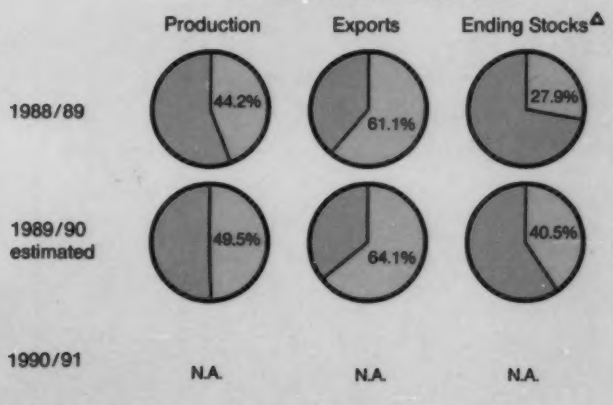
U.S. Share of World Coarse Grain:



Includes corn, sorghum, barley, oats, rye, millet, and mixed grain.

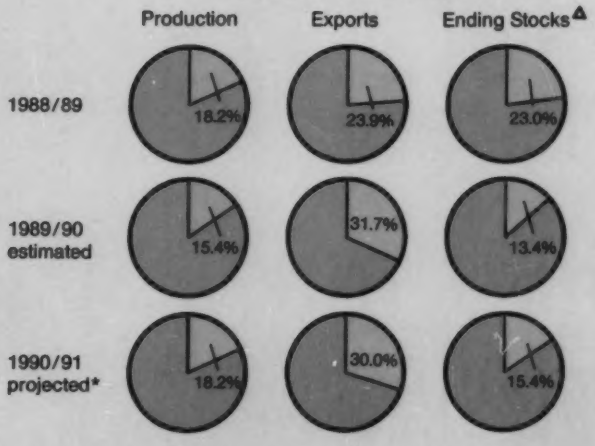
Soybeans

U.S. Share of World Soybean:



Cotton

U.S. Share of World Cotton:



N.A. = not available.
*Based on USDA's mid-June world supply-demand estimates.
△Ending stocks are year-end inventories.

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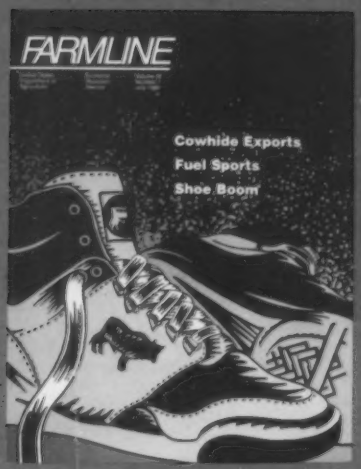

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